<212> DNA

<220> <221> CDS

<213> Homo sapiens

SEQUENCE LISTING

<110> Hong Zhang	
Andrew T. Watt	
Andrew 1. watt	
ACC ANTEGRACE MODILIATION OF CACRACE 7 EVERECCION	
<120> ANTISENSE MODULATION OF CASPASE 7 EXPRESSION	
<130> RTS-0201	
<160> 174	
<210> 1	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 1	
teegteateg eteeteaggg	20
<210> 2	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 2	
atgcattctg cccccaagga	20
<210> 3	
<211> 2309	

PATENT -2-RTS-0201 <222> (44)...(955) <400> 3 55 gagagactgt gccagtccca gccgccctac cgccgtggga acg atg gca gat gat Met Ala Asp Asp 1 103 cag ggc tgt att gaa gag cag ggg gtt gag gat tca gca aat gaa gat Gln Gly Cys Ile Glu Glu Gln Gly Val Glu Asp Ser Ala Asn Glu Asp 10 151 tca gtg gat gct aag cca gac cgg tcc tcg ttt gta ccg tcc ctc ttc Ser Val Asp Ala Lys Pro Asp Arg Ser Ser Phe Val Pro Ser Leu Phe 30 25 199 agt aag aag aaa aat gtc acc atg cga tcc atc aag acc acc cgg Ser Lys Lys Lys Asn Val Thr Met Arg Ser Ile Lys Thr Thr Arg 50 gac cga gtg cct aca tat cag tac aac atg aat ttt gaa aag ctg ggc 247 Asp Arg Val Pro Thr Tyr Gln Tyr Asn Met Asn Phe Glu Lys Leu Gly 55 295 aaa tgc atc ata ata aac aac aag aac ttt gat aaa gtg aca ggt atg Lys Cys Ile Ile Ile Asn Asn Lys Asn Phe Asp Lys Val Thr Gly Met 75 70 343 qqc qtt cqa aac gga aca gac aaa gat gcc gag gcg ctc ttc aag tgc Gly Val Arg Asn Gly Thr Asp Lys Asp Ala Glu Ala Leu Phe Lys Cys 100 85 391 ttc cga agc ctg ggt ttt gac gtg att gtc tat aat gac tgc tct tgt Phe Arg Ser Leu Gly Phe Asp Val Ile Val Tyr Asn Asp Cys Ser Cys 115 105 110 439 gcc aag atg caa gat ctg ctt aaa aaa gct tct gaa gag gac cat aca Ala Lys Met Gln Asp Leu Leu Lys Lys Ala Ser Glu Glu Asp His Thr 125 120 487 aat gcc gcc tgc ttc gcc tgc atc ctc tta agc cat gga gaa gaa aat Asn Ala Ala Cys Phe Ala Cys Ile Leu Leu Ser His Gly Glu Glu Asn 145 135 140 535 gta att tat ggg aaa gat ggt gtc aca cca ata aag gat ttg aca gcc

RTS	-020	01						-	3 -							PATENT
Val	Ile 150	Tyr	Gly	Lys	Asp	Gly 155	Val	Thr	Pro	Ile	Lys 160	Asp	Leu	Thr	Ala	
					aga Arg 170											583
					tgc Cys											631
_	_	_			atc Ile											679
					gac Asp											727
					agc Ser											775
					gag Glu 250											823
					Asn					Arg						871
	_	_			ttc Phe											919
			Thr		gaa Glu							сса	tatc	agg		965
															atgct	
															aacag	
gaa	gaaa	ctt	tctg	gtgc	tg t	cttt	tgtt	c tc	tgaa	cctt	cag	agac	בככ	itta	taatg	t 1145

-4-

PATENT

tattcatttg gtgactgtgt aactttctct taagattaat tttctctttg tatgtctgtt accttgttaa tagacttaat acatgcaaca gaagtgactt ctggagaaag ctcatggctg tgtccactgc aattggtggt aacagtggta gagtcatgtt tgcacttggc aaaaagaatc 1325 ccaatgtttg acaaaacaca gccaagggga tatttactgc tctttattgc agaatgtggg 1385 tattgagtgt gatttgaatg atttttcatt ggcttagggc agattttcat gcaaaagttc 1445 1505 tcatatgagt tagaggagaa aaagcttaat gattctgata tgtatccatc aggatccagt ctggaaaaca gaaaccattc taggtgtttc aacagaggga gtttaataca ggaaattgac 1565 ttacatagat gataaaagag aagccaaaca gcaagaagct gttaccacac ccagggctat 1625 gaggataatg ggaagaggtt tggtttcctg tgtccagtag tgggatcatc cagaggagct 1685 ggaaccatgg tgggggctgc ctagtgggag ttaggaccac caatggattg tggaaaatgg 1745 1805 agccatgaca agaacaaagc cactgactga gatggagtga gctgagacag ataagagaat accttgtctc acctatcctg ccctcacatc ttccaccagc accttactgc ccaggcctat ctggaagcca cctcaccaag gaccttggaa gagcaaggga cagtgaggca ggagaagaac 1925 1985 aagaaatgga tgtaagcctg gcccataatg tgaacataag taatcactaa tgctcaacaa tttatccatt caatcattta ttcattgggt tgtcagatag tctatgtatg tgtaaaacaa tctgttttgg ctttatgtgc aaaatctgtt atagctttaa aatatatctg gaacttttta 2105 gattattcca agccttattt tgagtaaata tttgttactt ttagttctat aagtgaggaa gagtttatgg caaagatttt tggcactttg ttttcaagat ggtgttatct tttgaattct tgataaatga ctgtttttt ctgcctaata gtaactggtt aaaaaacaaa tgttcatatt 2285 2309 tattgattaa aaatgtggtt gctt

<210> 4

<211> 26

RTS-0201	-5-	PATENT
<212> DNA <213> Artificial Sequence		
<223> PCR Primer		
<400> 4 attggtggta acagtggtag agtcat		26
<210> 5 <211> 20		
<212> DNA <213> Artificial Sequence		
<223> PCR Primer		
<400> 5 cccttggctg tgttttgtca		20
<210> 6 <211> 27 <212> DNA		
<213> Artificial Sequence <223> PCR Probe		
<400> 6 ttgcacttgg caaaaagaat cccaatg		27
<210> 7 <211> 21 <212> DNA <213> Artificial Sequence		
<223> PCR Primer		
<400> 7 caacggattt ggtcgtattg g		21
<210> 8 <211> 26		

RTS-0201	-6-		PATI	SNI
<212> DNA <213> Artificial Sequence				
<223> PCR Primer				
<400> 8 ggcaacaata tccactttac cagag	gt			26
<210> 9 <211> 21 <212> DNA				
<213> Artificial Sequence				
<223> PCR Probe				
<400> 9 cgcctggtca ccagggctgc t				21
<210> 10 <211> 2006 <212> DNA <213> Mus musculus				
<220> <221> CDS <222> (474)(1496)				
<400> 10 agctcagtga ggctgatgtg tactg	gcacat ttaaaaaaaa	aatcacagga at	tttcatac	60
aatgaataaa accacaacaa taca	tgtaga attggcaggt	ggaaaagagc ca	agcaagggc 1	L20
tcaaactaat cactcacttt ccctc	cttcag catagttcaa	ccaacagtag ca	acactttca 1	180
cctacaaatc ttaaagtagc tcca	tcaaat ctgcagtttt	cacattattg as	aaatgtctg 2	240
tcacataggt acaaatttag aatca	atcaca ttatattaca	tggctattct ag	ggtcatcta 3	300
tagatcagat cttagactac agtg				360
atgatcatta cctactgtta gctc	acatct aaaggcatga	aaaggtttcc tt	ttttttcaa 4	120

RTS-0201	-7-		PATENT
ctgacccaaa cactttac	cc caatagtgcc aggttccctc	tctgctgctt tga atg Met 1	476
_	ttc tca gag tcc ttt aca Phe Ser Glu Ser Phe Thr		524
	g gag gac gga cgc tgc cgt n Glu Asp Gly Arg Cys Arg 25		572
_	g acc gat gat cag gac tgt Thr Asp Asp Gln Asp Cys 40		620
	c agc gaa gac gga gtt gac c Ser Glu Asp Gly Val Asp 55 60	Ala Lys Pro Asp Arg	668
	tct att ctc ttg aag aag Ser Ile Leu Leu Lys Lys 75		716
= -	g acc ggc cgg gac cga gtg g Thr Gly Arg Asp Arg Val 90		764
	g aag atg ggt aaa tgc atc n Lys Met Gly Lys Cys Ile 105		812
	g aca ggt atg gac gtc cgg a Thr Gly Met Asp Val Arg 120		860
	c ttc aag tgc ttc caa aac u Phe Lys Cys Phe Gln Asr 135 140	n Leu Gly Phe Glu Val	908
_	c tgc tct tgt gca aag atg p Cys Ser Cys Ala Lys Met 0 155		956

RTS-0201	-8-	PATENT
	gac cac agc aac tcg gcc tgc ttc gcc tgc gtc Asp His Ser Asn Ser Ala Cys Phe Ala Cys Val 170 175	1004
	gaa gag gac ctg att tac ggg aaa gat ggc gtg Glu Glu Asp Leu Ile Tyr Gly Lys Asp Gly Val 185	1052
	ctg aca gct cat ttt agg gga gac cga tgc aaa Leu Thr Ala His Phe Arg Gly Asp Arg Cys Lys 200 205	1100
	ccc aaa ctc ttc ttc ttc att cag gca tgc cga gggPro Lys Leu Phe Phe Ile Gln Ala Cys Arg Gly215220	1148
	gga atc cag gct gac tcg ggg ccc atc aac gac Gly Ile Gln Ala Asp Ser Gly Pro Ile Asn Asp 235 240	1196
	cgc aac aag atc ccg gtg gaa gcc gac ttc ctc Arg Asn Lys Ile Pro Val Glu Ala Asp Phe Leu 250 255	1244
-	gtt cca ggt tat tac tca tgg agg aac cca ggg Val Pro Gly Tyr Tyr Ser Trp Arg Asn Pro Gly 265 270	1292
	gtg cag gcc ctc tgc tcc atc ctg aat gag cat Val Gln Ala Leu Cys Ser Ile Leu Asn Glu His 280 285	1340
	atc atg cag atc ctg acc agg gtg aac gac agg Ile Met Gln Ile Leu Thr Arg Val Asn Asp Arg 295 300 305	1388
	gag tcc cag tct gat gat cca cgc ttc aac gag Glu Ser Gln Ser Asp Asp Pro Arg Phe Asn Glu 315 320	1436
	tgt atg gtg tcc atg ctc acc aaa gag ctg tac Cys Met Val Ser Met Leu Thr Lys Glu Leu Tyr 330 335	1484

RTS-0201		-9-			PATENT
ttc agc cgt tga Phe Ser Arg 340	ccaccettca getgag	gaacc tgccgo	eegtt egttga	atgaa	1536
tccagttttt atttt	atttt tgttccgatg	ctctcaaaat	atccagaaat	gttgagggga	1596
tttaatttca ggaaa	agtcta gattttttt	ttttgtttaa	taactttgtt	catctgatga	1656
cttcatgctc ttcct	ctaag gttgatttcc	tgtttctgtt	tcttttttc	tttgtcgtct	1716
cgctgagtgc atgct	gtgag catgacctct	ggagaagaca	ttggcaatga	cgtctcagtt	1776
gaacttggca aagag	gaatee cagetettga	tgaaagaata	cagctgcgac	acctgttggd	2 1836
ctccattggc aaagg	gtgget getgagtggt	tgttctcagt	ggcttagggc	agatttttaa	a 1896
gccgaccttc ccag	gtgget gagagaagae	gacagttaat	attccagtat	atagaaccca	a 1956
atccagaaaa taago	ccatcc taggaatatc	ggtgcagaag	ggtcaataca		2006
<210> 11 <211> 21 <212> DNA <213> Artificial <223> PCR Prime <400> 11 tgaggaggac cacae <210> 12 <211> 23 <212> DNA <213> Artificial <223> PCR Prime	r gcaact c l Sequence				21
<400> 12 ttcccgtaaa tcag	gteete tte				23

<210> 17

RTS-0201		-10-	PATENT
<211> 21			
<212> DNA			
<213> Artificial Seq	uence		
_			
<223> PCR Probe			
.400. 12			
<400> 13 ctgcgtcctg ctgagccac	a a		21
ctgcgccctg ctgagccac	9 9		
<210> 14			
<211> 20			
<212> DNA			
<213> Artificial Seq	uence		
<223> PCR Primer			
<400> 14			
ggcaaattca acggcacag	t		20
210. 15			
<210> 15 <211> 20			
<211> 20 <212> DNA			
<213> Artificial Sec	uence		
12207 1120200000000000000000000000000000	,		
<223> PCR Primer			
<400> 15			
gggtctcgct cctggaago	t		20
<210> 16			
<211> 27		•	
<212> DNA	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
<213> Artificial Sec	luence		
<223> PCR Probe			
(22) OR FIODC			
<400> 16			
aaggccgaga atgggaago	t tgtcatc		27
	_		

RTS-0201		-11-		PAICNI
<211> 2661 <212> DNA <213> Homo sapie	ens			
<220> <221> CDS <222> (387)(1	298)			
<400> 17 cgcccgcgcg cgggc	tcaac tttgtag	gagc gaggggccaa	cttggcagag cgcgcggcca	a 60
gctttgcaga gagco	jecete caggga	ctat gcgtgcgggg	acacgggtcg ctttgggcto	120
ttccacccct gcgga	agcgca ctatcco	cgag ccaggggcgg	tgcaagcccc gcccggccc	180
acccagggcg gctcd	cteect eegeage	cgcc gagactttta	gtttcgcttt cgctaaagg	g 240
gccccagacc cttg	ctgcgg agcgac	ggag agagactgtg	ccagtcccag ccgccctac	300
gccgtgggaa cggca	aggaag tggcac	ttgg aaaagaacac	cagctgcggt ggtagcagt	g 360
ggatttgtgc ttct	atgtt acccag		t cag ggc tgt att gaa p Gln Gly Cys Ile Glu 5	413
			tca gtg gat gct aag Ser Val Asp Ala Lys 25	461
			agt aag aag aag aaa Ser Lys Lys Lys Lys	509
Pro Asp Arg Ser	30	35	40	
			g gac cga gtg cct aca g Asp Arg Val Pro Thr 55	557
tat cag tac aac	atg aat ttt	gaa aag ctg ggo	c aaa tgc atc ata ata	605
-			Lys Cys Ile Ile Ile	
			g ggc gtt cga aac gga E Gly Val Arg Asn Gly	653
76	80	_	85	

aca gac aaa gat gcc gag gcg ctc ttc aag tgc ttc cga agc ctg ggt Thr Asp Lys Asp Ala Glu Ala Leu Phe Lys Cys Phe Arg Ser Leu Gly ttt gac gtg att gtc tat aat gac tgc tct tgt gcc aag atg caa gat Phe Asp Val Ile Val Tyr Asn Asp Cys Ser Cys Ala Lys Met Gln Asp ctg ctt aaa aaa gct tct gaa gag gac cat aca aat gcc gcc tgc ttc Leu Leu Lys Lys Ala Ser Glu Glu Asp His Thr Asn Ala Ala Cys Phe gcc tgc atc ctc tta agc cat gga gaa gaa aat gta att tat ggg aaa Ala Cys Ile Leu Leu Ser His Gly Glu Glu Asn Val Ile Tyr Gly Lys gat ggt gtc aca cca ata aag gat ttg aca gcc cac ttt agg ggg gat Asp Gly Val Thr Pro Ile Lys Asp Leu Thr Ala His Phe Arg Gly Asp aga tgc aaa acc ctt tta gag aaa ccc aaa ctc ttc ttc att cag gct Arg Cys Lys Thr Leu Leu Glu Lys Pro Lys Leu Phe Phe Ile Gln Ala tgc cga ggg acc gag ctt gat ggt atc cag gcc gac tcg ggg ccc Cys Arg Gly Thr Glu Leu Asp Asp Gly Ile Gln Ala Asp Ser Gly Pro atc aat gac aca gat gct aat cct cga tac aag atc cca gtg gaa gct Ile Asn Asp Thr Asp Ala Asn Pro Arg Tyr Lys Ile Pro Val Glu Ala gac ttc ctc ttc gcc tat tcc acg gtt cca ggc tat tac tca tgg agg Asp Phe Leu Phe Ala Tyr Ser Thr Val Pro Gly Tyr Tyr Ser Trp Arg age cca gga aga gge tee tgg ttt gtg caa gee ete tge tee ate etg Ser Pro Gly Arg Gly Ser Trp Phe Val Gln Ala Leu Cys Ser Ile Leu gag gag cac gga aaa gac ctg gaa atc atg cag atc ctc acc agg gtg Glu Glu His Gly Lys Asp Leu Glu Ile Met Gln Ile Leu Thr Arg Val

-12-

aat gac aga gtt gcc agg cac ttt gag tct cag tct gat gac cca cac 1229 Asn Asp Arg Val Ala Arg His Phe Glu Ser Gln Ser Asp Asp Pro His 275 280 270 1277 ttc cat gag aag aag cag atc ccc tgt gtg gtc tcc atg ctc acc aag Phe His Glu Lys Lys Gln Ile Pro Cys Val Val Ser Met Leu Thr Lys 285 1328 gaa ctc tac ttc agt caa tag ccatatcagg ggtacattct agctgagaag Glu Leu Tyr Phe Ser Gln 300 caatgggtca ctcattaatg aatcacattt ttttatgctc ttgaaatatt cagaaattct ccaggatttt aatttcagga aaatgtattg attcaacagg gaagaaactt tctgggtgct gtcttttgtt ctctgaattt tcagagactt tttttataat gttattcatt tggtgactgt gkaactttct cttaagatta attttctctt tgtatgtctg ttaccttgtt aatagactta 1568 atacatgcaa cagaagtgac ttctggagaa agctcatggc tgtgtccact gcaattggtg 1628 gcaacagtgg cagagtcatg tttgcacttg gcaaaaagaa tcccaatgtt tgacaaacac agccaagggg atatttactg ctctttattg cagaatgtgg gtattgagtg tgatttgaat 1748 1808 gatttttcat tggcttaggg cagattttca tgcaaaagtt ctcatatgag ttagaggaga aaaagcttaa tgattctgat atgtatccat caggatccag tctggaaaac agaaaccatt 1928 ctaggtgttt caacagaggg agtttaatac aggaaattga cttacataga tgatataaga gaacccaaac agcaagaagc tgttaccaca cccaggtcta tgaggataat gggaagaggt 1988 ttggtttcct gtgtccagta gtgggatcat ccagaggagc tggaaccatg gtgggggctg cctagtggga gttaggacca ccaatggatt gtggaaaatg gagccatgac aagaacaaaa ccactgactg agatggagtg agctgagaca gataagagaa taccttggtc tcacctatcc 2168 tgccctcaca tcttccacca gcaccttact gcccaggcct atctggaagc cacctcacca aggaccttgg aagagcaagg gacagtgagg caggagaaga acaagaaatg gatgtaagcc 2288

-13-

RTS-0201 -14- PATENT

tggcccataa	tgtgaacata	agtaatcact	aatgctcaac	aatttatcca	ttcaatcatt	2348
tattcattgg	gttgtcagat	agtctatgta	tgtgtaaaac	aatctgtttt	ggctttatgt	2408
ccaaaatctg	ttatagcttt	aaaatatatc	tggaactttt	tagattattc	caagccttat	2468
tttgagtaaa	tatttgttac	ttttagttct	ataagtgagg	aagagtttat	ggcaaagatt	2528
tttggcactt	tgttttcaag	atggtgttat	cttttgaatt	cttgataaat	gactgttttt	2588
ttctgcctaa	tagtaactgg	ttaaaaaaca	aatgttcata	tttattgatt	aaaaatgtgg	2648
ttgcttaatt	cct					2661

<210> 18

<211> 2602

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (229)...(1239)

<400> 18

gtggggtaaa acagcagaga tcaatgagat cagagcacac cctcggagga agggatacat 60
gacaaatgcc tgaacggaga gagggagtga actgtgcaaa cacacagcca ggagttttcc 120
aaggacaggg aggagaaagt ataaggcctg ctgtaccctc gatgcaaaac atgagaaagc 180
cgactgtgcc agtcccagcc gccctaccgc cgtgggaacg atgctgta atg gac tgt 237
Met Asp Cys
1

gtt ggt tgg cct cca ggc agg aag tgg cac ttg gaa aag aac acc agc

Val Gly Trp Pro Pro Gly Arg Lys Trp His Leu Glu Lys Asn Thr Ser

5 10 15

tgc ggt ggt agc agt ggg att tgt gct tct tat gtt acc cag atg gca 333
Cys Gly Gly Ser Ser Gly Ile Cys Ala Ser Tyr Val Thr Gln Met Ala
20 25 30 35

RTS	-02	01					-1	.5-						PATENT
-	_	_										gca Ala 50		381
_												ccg Pro		429
												aag Lys		477
												gaa Glu		525
												gtg Val		573
												ctc Leu 130		621
												gac Asp		669
			Lys				Leu					gag Glu		717
		Asn				Ala					Ser		gaa Glu	765
_	Asn				Lys					Pro			ttg Leu 195	813
				Gly					Thr				ccc Pro	861

RTS-0201	-	16-	PATENT
aaa ctc ttc ttc att Lys Leu Phe Phe Ile 215		Gly Thr Glu Leu	
atc cag gcc gac tcg Ile Gln Ala Asp Ser 230			Asn Pro Arg
tac aag atc cca gtg Tyr Lys Ile Pro Val 245			
cca ggc tat tac tca Pro Gly Tyr Tyr Ser 260			
caa gcc ctc tgc tcc Gln Ala Leu Cys Ser 280			
atg cag atc ctc acc Met Gln Ile Leu Thr 295		Arg Val Ala Arg	
tct cag tct gat gac Ser Gln Ser Asp Asp 310			n Ile Pro Cys
gtg gtc tcc atg ctc Val Val Ser Met Leu 325			a tag ccatatcagg 1249 n
ggtacattct agctgaga	ag caatgggtca c	tcattaatg aatcaca	attt ttttatgctc 1309
ttgaaatatt cagaaatt	ct ccaggatttt a	atttcagga aaatgta	attg attcaacagg 1369
gaagaaactt tctgggtg	ct gtcttttgtt c	tctgaattt tcagaga	actt tttttataat 1429
gttattcatt tggtgact	gt gkaactttct c	ttaagatta attttc	cett tgtatgtetg 1489
ttaccttgtt aatagact	ta atacatgcaa c	agaagtgac ttctgg	agaa agctcatggc 1549
tgtgtccact gcaattgg	jtg gcaacagtgg c	agagtcatg tttgca	cttg gcaaaaagaa 1609

RTS-0201 -17- PATENT

tcccaatgtt	tgacaaacac	agccaagggg	atatttactg	ctctttattg	cagaatgtgg	1669
gtattgagtg	tgatttgaat	gatttttcat	tggcttaggg	cagattttca	tgcaaaagtt	1729
ctcatatgag	ttagaggaga	aaaagcttaa	tgattctgat	atgtatccat	caggatccag	1789
tctggaaaac	agaaaccatt	ctaggtgttt	caacagaggg	agtttaatac	aggaaattga	1849
cttacataga	tgatataaga	gaacccaaac	agcaagaagc	tgttaccaca	cccaggtcta	1909
tgaggataat	gggaagaggt	ttggtttcct	gtgtccagta	gtgggatcat	ccagaggagc	1969
tggaaccatg	gtgggggctg	cctagtggga	gttaggacca	ccaatggatt	gtggaaaatg	2029
gagccatgac	aagaacaaaa	ccactgactg	agatggagtg	agctgagaca	gataagagaa	2089
taccttggtc	tcacctatcc	tgccctcaca	tcttccacca	gcaccttact	gcccaggcct	2149
atctggaagc	cacctcacca	aggaccttgg	aagagcaagg	gacagtgagg	caggagaaga	2209
acaagaaatg	gatgtaagcc	tggcccataa	tgtgaacata	agtaatcact	aatgctcaac	2269
aatttatcca	ttcaatcatt	tattcattgg	gttgtcagat	agtctatgta	tgtgtaaaac	2329
aatctgtttt	ggctttatgt	ccaaaatctg	ttatagcttt	aaaatatatc	tggaactttt	2389
tagattattc	caagccttat	tttgagtaaa	tatttgttac	ttttagttct	ataagtgagg	2449
aagagtttat	ggcaaagatt	tttggcactt	tgttttcaag	atggtgttat	cttttgaatt	2509
cttgataaat	gactgttttt	ttctgcctaa	tagtaactgg	ttaaaaaaca	aatgttcata	2569
tttattgatt	aaaaatgtgg	ttgcttaatt	cct			2602

<210> 19

<211> 2378

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (147)...(908)

-18-PATENT RTS-0201 <400> 19 gcaagctggg ctgctgggtg ggtacttcct tcaaagctga gggagcgtcc tacgcccacg 60 cgcgcaggag ggcgccccc gcaaagcaac gtctaggaga ccacagtgga tgccacagcg 120 ggcccgaagc ggatcagcct tgtggg atg gca gat gat cag ggc tgt att gaa 173 Met Ala Asp Asp Gln Gly Cys Ile Glu 221 gag cag ggg gtt gag gat tca gca aat gaa gat tca gtg gat gct aag Glu Gln Gly Val Glu Asp Ser Ala Asn Glu Asp Ser Val Asp Ala Lys 20 10 15 269 cca gac egg tee teg ttt gta eeg tee ete tte agt aag aag aaa Pro Asp Arg Ser Ser Phe Val Pro Ser Leu Phe Ser Lys Lys Lys 40 35 30 317 aat gtc acc atg cga tcc atc aag acc acc cgg gac cga gtg cct aca Asn Val Thr Met Arg Ser Ile Lys Thr Thr Arg Asp Arg Val Pro Thr 50 45 365 tat cag tac aac atg aat ttt gaa aag ctg ggc aaa tgc atc ata ata Tyr Gln Tyr Asn Met Asn Phe Glu Lys Leu Gly Lys Cys Ile Ile Ile 70 60 aac aac aag aac ttt gat aaa gtg aca ggt atg ggc gtt cga aac gga 413 Asn Asn Lys Asn Phe Asp Lys Val Thr Gly Met Gly Val Arg Asn Gly 85 80 75 aca gac aaa gat gcc gag gcg ctc ttc aag tgc ttc cga agc ctg ggt 461 Thr Asp Lys Asp Ala Glu Ala Leu Phe Lys Cys Phe Arg Ser Leu Gly 100 95 90 ttt gac gtg att gtc tat aat gac tgc tct tgt gcc aag atg caa gat 509 Phe Asp Val Ile Val Tyr Asn Asp Cys Ser Cys Ala Lys Met Gln Asp 120 115 110 ctg ctt aaa aaa gct tct gaa gag gac cat aca aat gcc gcc tgc ttc 557 Leu Leu Lys Lys Ala Ser Glu Glu Asp His Thr Asn Ala Ala Cys Phe 130 135 125 gcc tgc atc ctc tta agc cat gga gaa gaa aat atg gaa tct tgc tct 605 Ala Cys Ile Leu Leu Ser His Gly Glu Glu Asn Met Glu Ser Cys Ser

145

140

150

653 gtc acc cag gct gga gtg cag cgg cgt gat ctc gga aga ctg caa cct Val Thr Gln Ala Gly Val Gln Arg Arg Asp Leu Gly Arg Leu Gln Pro 165 160 155 701 cca cct ccc agg ctt gcc gag gga ccg agc ttg atg atg gca tcc agg Pro Pro Pro Arg Leu Ala Glu Gly Pro Ser Leu Met Met Ala Ser Arg 180 175 170 749 ccg act cgg ggc cca tca atg aca cag atg cta atc ctc gat aca aga Pro Thr Arg Gly Pro Ser Met Thr Gln Met Leu Ile Leu Asp Thr Arg 200 195 190 tcc cag tgg aag ctg act tcc tct tcg cct att cca cgg ttc cag gct 797 Ser Gln Trp Lys Leu Thr Ser Ser Ser Pro Ile Pro Arg Phe Gln Ala 215 210 205 att act cgt gga gga gcc cag gaa gag gct cct ggt ttg tgc aag ccc 845 Ile Thr Arg Gly Gly Ala Gln Glu Glu Ala Pro Gly Leu Cys Lys Pro 220 tct gct cca tcc tgg agg agc acg gaa aag acc tgg aaa tca tgc aga 893 Ser Ala Pro Ser Trp Arg Ser Thr Glu Lys Thr Trp Lys Ser Cys Arg 245 240 235 tcc tca cca ggg tga atgacagagt tgccaggcac tttgagtctc agtctgatga 948 Ser Ser Pro Gly 250 cccacacttc catgagaaga agcagatccc ctgtgtggtc tccatgctca ccaaggaact ctacttcagt caatagccat atcaggggta cattctagct gagaagcaat gggtcactca ttaatgaatc acatttttt atgctcttga aatattcaga aattctccag gattttaatt tcaggaaaat gtattgattc aacagggaag aaactttctg gtgctgtctt ttgttctctg aattttcaga gactttttta taatgttatt catttggtga ctgtgtaact ttctcttaag 1248 attaattttc tctttgtatg tctgttacct tgttaataga cttaatacat gcaacagaag

tgacttctgg agaaagctca tggctgtgtc cactgcaatt ggtggtaaca gtggtagagt

catgtttgca cttggcaaaa agaatcccaa tgtttgacaa aacacagcca aggggatatt

-19-

tactgctctt tattgcagaa tgtgggtatt gagtgtgatt tgaatgattt ttcattggct tagggcagat tttcatgcaa aagttctcat atgagttaga ggagaaaaag cttaatgatt ctgatatgta tccatcagga tccagtctgg aaaacagaaa ccattctagg tgtttcaaca 1608 gagggagttt aatacaggaa attgacttac atagatgata aaagagaagc caaacagcaa 1668 gaagctgtta ccacacccag ggctatgagg ataatgggaa gaggtttggt ttcctgtgtc 1728 cagtagtggg atcatccaga ggagctggaa ccatggtggg ggctgcctag tgggagttag 1788 gaccaccaat ggattgtgga aaatggagcc atgacaagaa caaagccact gactgagatg 1848 gagtgagctg agacagataa gagaatacct tgtctcacct atcctgccct cacatcttcc accagcacct tactgcccag gcctatctgg aagccacctc accaaggacc ttggaagagc 1968 aagggacagt gaggcaggag aagaacaaga aatggatgta agcctggccc ataatgtgaa 2028 cataagtaat cactaatgct caacaattta tccattcaat catttattca ttgggttgtc agatagtcta tgtatgtgta aaacaatctg ttttggcttt atgtgcaaaa tctgttatag ctttaaaata tatctggaac tttttagatt attccaagcc ttattttgag taaatatttg 2208 ttacttttag ttctataagt gaggaagagt ttatggcaaa gatttttggc actttgtttt caagatggtg ttatcttttg aattcttgat aaatgactgt ttttttctgc ctaatagtaa 2378 ctggttaaaa aacaaatgtt catatttatt gattaaaaat gtggttgctt

<210> 20

<211> 20

<212> DNA

<213> Artificial Sequence

<223> Antisense Oligonucleotide

RTS-0201	-21- PATENT
<210> 21	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 21	20
aatacagccc tgatcatctg	24
<210> 22	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 22	20
atcttcattt gctgaatcct	20
<210> 23	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 23	
catccactga atcttcattt	20
<210> 24	
<211> 24 <211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 24	
tctggcttag catccactga	20

RTS-0201	-22-	PATENT
<210> 25		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
.400. 25		
<400> 25		20
ggaccggtct ggcttagcat		
<210> 26		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 26		
cttactgaag agggacggta		20
Cttactgaag agggacggca		
<210> 27		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 27		
tettettett actgaagagg		20
<210> 28		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 28		
gatggatcgc atggtgacat		20

RTS-0201	-23-	PATENT
<210> 29		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucl	eotide	
<400> 29		
ttgcccagct tttcaaaatt		20
<210> 30		
<211> 20		
<212> DNA		
<213> Artificial Sequence	:	
<223> Antisense Oligonucl	.eotide	
<400> 30		
cttcggaagc acttgaagag		20
<210> 31		
<211> 20		
<212> DNA		
<213> Artificial Sequence	>	
<223> Antisense Oligonucl	leotide	
<400> 31		
cccaggcttc ggaagcactt		20
<210> 32		
<211> 20		
<212> DNA		
<213> Artificial Sequence	e	
<223> Antisense Oligonuc	leotide	
<400> 32		
tcaaaaccca ggcttcggaa		20

RTS-0201	-24-	PATENT
<210> 33		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 33		2.0
gacaatcacg tcaaaaccca		20
<210> 34		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 34		0.0
caagagcagt cattatagac		20
<210> 35		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 35		
gcatttgtat ggtcctcttc		20
<210> 36		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 36		
gtgtgacacc atctttccca		20

RTS-0201	-25-	PATENT
<210> 37		
<211> 20		
<212> DNA		
<213> Artificial Sequen	ice	
<223> Antisense Oligonu	cleotide	
<400> 37		
gaagagtttg ggtttctcta		20
gaagageeeg ggeeeeres		
<210> 38		
<211> 20		
<212> DNA		
<213> Artificial Sequer	ice	
<223> Antisense Oligonu	ıcleotide	
<400> 38		20
cctgaatgaa gaagagtttg		20
<210> 39		
<211> 20		
<212> DNA		
<213> Artificial Seque	nce	
<223> Antisense Oligon	ucleotide	
22235 Ancisense Oligon	101000140	
<400> 39		
taatagcctg gaaccgtgga		20
<210> 40		
<211> 20		
<212> DNA		
<213> Artificial Seque	nce	
<223> Antisense Oligon	ucleotide	
<400> 40		
gagtaatagc ctggaaccgt		20
J. J		

RTS-0201	-26-	PATEMI
<210> 41		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 41		20
accaggagcc tetteetggg		20
<210> 42		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 42		
gcacaaacca ggagcctctt		20
<210> 43		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 43		
gctcctccag gatggagcag		20
<210> 44		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 44		
caggicitti ccgigcicci		20

RTS-0201	•	-21-	PAIENI
<210> 45			
<211> 20			
<212> DNA	l Cognongo		
<213> Artificia	1 Sequence		
<223> Antisense	Oligonucleotide		
<400> 45			20
gatctgcatg attt	ccaggt		20
<210> 46			
<211> 20			
<212> DNA			
<213> Artificia	l Sequence		
<223> Antisense	Oligonucleotide		
<400> 46			
ggtcatcaga ctga	gactca		20
33 3 5			
<210> 47			
<211> 20			
<212> DNA			
<213> Artificia	al Sequence		
2222 Antigonge	e Oligonucleotide		
<223> Ancisense	origonacicociac		
<400> 47			
gtgagcatgg agac	ccacaca		20
<210> 48			
<211> 20 <212> DNA			
<212> DNA <213> Artificia	al Seguence		
<213> MICHIELL	11 Dequence		
<223> Antisense	e Oligonucleotide		
	-		
<400> 48			
actgaagtag agtt	tccttgg		20

RTS-0201	-28-	PATENT
<210> 49		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 49		20
tgatatggct attgactgaa		20
<210> 50		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
•		
<223> Antisense Oligonucleotide		
<400> 50		
cattgcttct cagctagaat		20
<210> 51		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
22235 Antisense Oligonacicociae		
<400> 51		
gtgacccatt gcttctcagc		20
<210> 52		
<211> 20	•	
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 52		20
agtttcttcc ctgttgaatc		20

RTS-0201	-29-	PALENI	•
<210> 53			
<211> 20			
<212> DNA			
<213> Artificial Sequence			
<223> Antisense Oligonucleoti	ide		
(223) And Dembe Offgondered			
<400> 53			
aaagtctctg aaaattcaga		20	
<210> 54			
<211> 20			
<212> DNA			
<213> Artificial Sequence			
<223> Antisense Oligonucleoti	ide		
<400> 54			
cagaagtcac ttctgttgca		20	
210, 55			
<210> 55 <211> 20			
<211> 20 <212> DNA			
<213> Artificial Sequence			
(213)			
<223> Antisense Oligonucleot	ide		
<400> 55			
gctttctcca gaagtcactt		20	
<210> 56			
<211> 36			
<211> 20 <212> DNA			
<213> Artificial Sequence			
-210, mothered sodiems			
<223> Antisense Oligonucleot	ide		
<400> 56			
ccaccaattg cagtggacac		20	ļ

RTS-0201	-30-	PATENT
<210> 57		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 57		20
ttaccaccaa ttgcagtgga		20
<210> 58 <211> 20		
<211> 20 <212> DNA		
<212> DNA <213> Artificial Sequence		
22133 Artificial bequence		
<223> Antisense Oligonucleotide		
12237 1210220111 1-23		
<400> 58		
acattctgca ataaagagca		20
<210> 59		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 59		20
aatacccaca ttctgcaata		20
<210> 60		
<211> 20		
<211> 20 <212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
-		
<400> 60		
tcaataccca cattctgcaa		20

<210> 61	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 61	
tgccctaagc caatgaaaaa	20
<210> 62	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 62	20
agetttttet eetetaaete	20
<210> 63	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
<400> 63	0.0
atggtttctg ttttccagac	20
010 64	
<210> 64 <211> 20	
<211> 20 <212> DNA	
<212> DNA <213> Artificial Sequence	
and the contract of the contra	
<223> Antisense Oligonucleotide	
<400> 64	
tgtaagtcaa tttcctgtat	20

-31-

RTS-0201	-32-	PATENT
<210> 65		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
12237 12.0220		
<400> 65		
attateetea tageeetggg		20
<210> 66		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
(223) Ancibende Gilgenderetani		
<400> 66		
teetetggat gateecaeta		20
<210> 67		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide	2	
(22) Antibende Oligonatiootat		
<400> 67		
ttccacaatc cattggtggt		20
<210> 68		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide	2	
<223> Antisense Offgonucleotide	_	
<400> 68		
ggctttgttc ttgtcatggc		20

RTS-0201	-33-	PATENT
<210> 69		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 69		2.0
cttatctgtc tcagctcact		20
<210> 70 <211> 20		
<211> 20 <212> DNA		
<213> Artificial Sequence		
(213) Medicional Doques		
<223> Antisense Oligonucleotide		
<400> 70		
ctcttatctg tctcagctca		20
<210> 71		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 71		
gataggtgag acaaggtatt		20
<210> 72		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
-		
<223> Antisense Oligonucleotide		
<400> 72		
tgaggtggct tccagatagg		20
5 55 55 5 55		

RTS-0201	-34- PATE	NT
	•	
<210> 73		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 73		
teetgeetca etgteeettg	2	20
<210> 74		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 74		20
tcacattatg ggccaggctt		20
<210> 75		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 75		20
tacttatgtt cacattatgg		20
<210> 76		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 76		
ctatctgaca acccaatgaa		20

RTS-0201	-35-	PATENT
<210> 77		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 77		
attttaaagc tataacagat		20
<210> 78		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 78		
ccagatatat tttaaagcta		20
<210> 79		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 79		
tcaaaataag gcttggaata		20
<210> 80		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 80		
aagcaaccac atttttaatc		20

RTS-0201	-36-	PATENT
<210> 81		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
,		
<400> 81		2.0
cgcacgcata gtccctggag		20
<210> 82		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 82		
ctggctcggg atagtgcgct		20
<210> 83		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 83		20
gcaccgcccc tggctcggga		20
<210> 84		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 84		20
cctttagcga aagcgaaact		20

RTS-0201	-37- PATENT
<210> 85	
<211> 20	
<212> DNA	•
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
-	
<400> 85	
gttcttttcc aagtgccact	20
<210> 86	
<211> 20 <212> DNA	
<212> DNA <213> Artificial Sequence	
22135 Artillicial Sequence	
<223> Antisense Oligonucleotide	
<400> 86	
aaatcccact gctaccaccg	20
<210> 87	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
3237 12322333 3 5	
<400> 87	
atgtatecet teeteegagg	20
<210> 88	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<223> Antisense Oligonucleotide	
2239 Michaeliae Orrgonucreocrue	
<400> 88	
atactttctc ctccctgtcc	20

RTS-0201	-38-	PATENT
<210> 89		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotic	de	
<400> 89		20
cttatacttt ctcctccctg		20
<210> 90		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleoti	de	
<400> 90		20
gegeetegge atetttgtet		20
<210> 91		
<211> 20		
<212> DNA	•	
<213> Artificial Sequence		
<223> Antisense Oligonucleoti	.de	
<400> 91		20
tgaaggaagt acccacccag		20
<210> 92		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleoti	ide	
<400> 92		
catcccacaa ggctgatccg		20

RTS-0201	-39-	PATENI
<210> 93		
<211> 20		
<212> DNA		
<213> Artificial Sequence	:	
<223> Antisense Oligonucl	eotide	
<400> 93		22
tctgccatcc cacaaggctg		20
<210> 94		
<211> 20		
<212> DNA	_	
<213> Artificial Sequence	;	
<223> Antisense Oligonucl	leotide	
<400> 94		
catattttct tctccatggc		20
<210> 95		
<211> 20		
<212> DNA		
<213> Artificial Sequence	3	
<223> Antisense Oligonuc	leotide	
<400> 95		
aggttgcagt cttccgagat		20
aggeegeage eeccegagae		
<210> 96		
<211> 20		
<211> 20 <212> DNA		
<213> Artificial Sequenc	e	
and the state of t		
<223> Antisense Oligonuc	leotide	
<400> 96		
gaatgtaccc ctgatatggc		20

<210	> 97															
<211:	> 23	72														
<212	> DN	A														
<213	> Mu	s mu	scul	us												
<220:	>															
<221:	> CD	S														
<222	> (1	90).	(1	101)												
<400	> 97															
acaa	caaa	ct c	cgta	gcgc	g cg	ttcc	cgct	cgc	cccc	agc	tttc	ccgg	gc t	gcag	gcaca	60
5 55	333															
accc	catc	ca a	cccq	cccg	c tc	ctcc	ccct	ccg	cctc	cgg	gact	tttg	ct t	tcag	ttttc	120
J	_		Ĭ	_												
ccaa	aget	ac c	ctca	accc	t tq	cqqa	ggac	gga	cgct	gcc	gtgg	gctc	ct g	gccg	ccgcc	180
0000	5	J			J		-									
ataa	gaac	or at	a ac	с фа	t qa	t ca	q qa	c tg	t gc	t go	g ga	g ct	g ga	aa aa	ıg gtg	231
9,99	gaao														s Val	
			1			_	5					.0				
			_													
gat	tct	taa	agc	gaa	gac	aaa	att	qac	qcc	aag	cca	gac	cgc	tcc	tct	279
														Ser		
15	DCI	501	501	010	20	1				25		_			30	
13																
atc	atc	tcc	tct	att	ctc	tta	aaq	aaq	aaq	aga	aat	gcc	tct	gcg	ggc	327
														Ala		
110	110	001		35			1	•	40	_				45		
				-												
CCC	atc	agg	acc	aac	caa	gac	cqa	ata	ccc	act	tat	ctg	tac	cgc	atg	375
														Arg		
110	•41	9	50	1	5	-		55					60			
			50													
ast	ttc	cac	aaq	ato	aat	aaa	tac	atc	atc	ata	aac	aac	aag	aac	ttc	423
														Asn		
Asp	FIIC	65	шуз	ricc	O _I		70					75	•			
		05					. •									
~~~		~~~	202	aat	ata	aac	atc	caa	aat	aaa	acq	gac	aaa	gat	qca	47
														Asp		
Asp	_	Ата	1111	GIY	MCC	85	vul			<b>U</b> -1	90		1	-		
	80					0.5										
~	~~~	ata	++~	224	taa	tta	caa	aac	cta	gat	ttt	gaa	qta	acc	qtc	519
														Thr		
_	AIG	ьeu	Pile	пув		FIIG	<b>U</b> 111	rio ii		105					110	
95					100					±03						

RTS-0201 -41- PATENT

cac	aat	gac	tgc	tct	tgt	gca	aag	atg	caa	gat	ctg	ctt	aga	aaa	gcc	567
His	Asn	Asp	Cys	Ser	Cys	Ala	Lys	Met	Gln	Asp	Leu	Leu	Arg	Lys	Ala	
				115					120					125		
														ctg		615
Ser	Glu	Glu	Asp	His	Ser	Asn	Ser	Ala	Cys	Phe	Ala	Cys		Leu	Leu	
			130					135					140			
															~~~	663
														aca		663
Ser	His		Glu	Glu	Asp	Leu		Tyr	GIY	ьys	Asp		vaı	Thr	PIO	
		145					150					155				
		~~+	ata	202	act	cat	+++	agg	aaa	gac	cga	tac	aaa	acc	cta	711
	_													Thr		
шe	160	Asp	пец	1111	AIa	165	1110	m 9	O T J	p	170	-1-	-2			
	160					103										
tta	gag	aaa	ccc	aaa	ctc	ttc	ttc	att	cag	gca	tgc	cga	ggg	acg	gag	759
														Thr		
175		-1 -		-	180					185					190	
ctc	gat	gat	gga	atc	cag	gct	gac	tcg	999	ccc	atc	aac	gac	att	gac	807
Leu	Asp	Asp	Gly	Ile	Gln	Ala	Asp	Ser	Gly	Pro	Ile	Asn	Asp	Ile	Asp	
				195					200					205		
														ttt		855
Ala	Asn	Pro	Arg	Asn	Lys	Ile	Pro		Glu	Ala	Asp	Phe			Ala	
			210					215					220			
									.	~~~	220	993	aaa	222	aac	903
														aaa		703
Tyr	Ser			Pro	GIY	Tyr	230		пр	Arg	ASII	235	GIY	БуБ	Gly	
		225					230					255				
tcc	taa	+++	ata	cad	acc	ctc	tac	tcc	atc	ctq	aat	gag	cat	ggc	aag	951
															Lys	
DCI	240					245					250					
qac	cto	gag	ato	atg	cag	ato	ctg	acc	agg	gtg	aac	gac	agg	gtg	gcc	999
Asp	Leu	Glu	ı Ile	Met	Gln	Ile	Leu	Thr	Arg	Val	Asn	Asp	Arg	Val	Ala	
255					260)				265	i				270	
															aag	1047
Arg	His	Phe	Glu	ı Ser	Glr	Ser	Asp	Asp	Pro	Arç	y Phe	Asn	Glu	Lys	Lys	
				275	5				280					285	5	

RTS-0201 -42- PATENT

cag atc ccg tgt atg gtg tcc atg ctc acc aaa gag ctg tac ttc agc Gln Ile Pro Cys Met Val Ser Met Leu Thr Lys Glu Leu Tyr Phe Ser 290 295 300	1095
cgt tga ccaccettca getgagaace tgeegeegtt egttgatgaa tecagttttt Arg	1151
attttatttt tgttccgatg ctctcaaaat atccagaaat gttgagggga tttaatttca	1211
ggaaagteta gatttttttt tttttgttta ataaetttgt teatetgatg aetteatget	1271
cttcctctaa ggttgatttc ctgtttctgt ttcttttttt ctttgtcgtc tcgctgagtg	1331
catgctgtga gcatgacctc tggagaagac attggcaatg acgtctcagt tgaacttggc	1391
aaagagaatc ccagctcttg atgaaagaat acagctgcga cacctgttgg cctccattgg	1451
caaaggtggc tgctgagtgg ttgttctcag tggcttaggg cagattttta agccgacctt	1511
cccaggtggc tgagagaaga cgacagttaa tattccagta tatagaaccc aatccagaaa	1571
ataagccatc ctaggaatat cggtgcagaa gggtcaatac agggaattca cttactcggg	1631
taattgagag acagtcaatc ccgttacctc acatgcctct gtggggctgt aagaggactt	1691
cggttccctt gtcatcagta agaactgtgg cagggcagcc ttctagagac tagaaccatg	1751
gaggactatg gtgattggag ccaggctcag gacaagccac tgcctgagat ggaaaccaag	1811
ccagaactga gtcagacacc aaaggcetee ecaggeetgt geecatatee accagegeet	1871
tataattcca aggtgcctga aagccaacta gtgagggcct agggaccatg ctaccctgtg	j 1931
ctacagagca gaggaaggga tagcaaagca ggggtagtgg tgggggtaaa cttggctcaa	ı 1991
aatgtgaatt aaataaccat gtcctctggc gtgctacaat gtattcattc actattcact	2051
gatttgtcag atcatccatc cacacaggtg ctgaagagta acccatttca ctttgtatac	2113
aagataatgt ttttgtactt caaatacatc tggaattctt tcaaatattc caagatttt	217
ttttctgaat aatctttggt tacctctggt tctacaaatg acaatttagg cgaagatctt	223

RTS-0201			-43-		I	ATENT
agcagtttct	ttccaaggta	tcattttctt	tggaattcgt	tatacattcc	tgtttttccc	2291
acctaataaa	tggttgacag	atgttcctat	ttattgatta	aaatgtgttt	cagaaaaaaa	2351
aaaaaaaaa	aaaaaaaaa	a				2372
<210> 98 <211> 416 <212> DNA <213> Mus n	nusculus					
<400> 98 aaaaaaaagc	tgccctcgac	ccttgcggag	gacggacgct	gccgtgggct	cctggccgcc	60
gccgtgggaa	cgatgaccga	tgatcaggac	tgtgctgcgg	agctggaaaa	ggtggattct	120
tccagcgaag	acggagttga	cgccaagcca	gaccgctcct	ctatcatctc	ctctattctc	180
ttgaagaaga	agagaaatgc	ctctgggggc	cccgtcagga	ccggccggtg	cgcgggtgcc	240
cactggtggg	gaccgcaggg	aggtggcaag	tgagggagag	gtgcatgggt	ggagagaaga	300
ggggcgtcgg	caaagcgagg	tttgtggagg	tccggaatgg	gacggagaaa	gatgcagggg	360
cgcgcttcaa	gtgctgccaa	aacctgggtt	ttgaagtaac	cgtccacaat	gactgc	416
	ficial Sequ sense Oligo					

20

<210> 100 <211> 20

<400> 99

gtgcctgcag cccgggaaag

RTS-0201	-44-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 100		
tgaaagcaaa agtcccggag		20
<210> 101		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 101		20
atcatcggtc atcgttccca		20
<210> 102		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 102		20
cgctttgtcg aagttcttgt		20
<210> 103		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 103		20
acctgtcgct ttgtcgaagt		20
<210> 104		
~211× 20		

RTS-0201	-45-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 104		
gtccatacct gtcgctttgt		20
<210> 105		
<211> 20		
<212> DNA <213> Artificial Sequence		
22135 Attiticial Sequence		
<223> Antisense Oligonucleotide		
<400> 105		
tttgtccgtc ccattccgga		20
<210> 106		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 106		20
ggaagcactt gaagagggcc		20
<210> 107		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 107		
ctcagcagga cgcaggcgaa		20
<210> 108		
<211> 20		

RTS-0201	-46-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 108		20
cgtggctcag caggacgcag		
<210> 109		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 109		
atgagetgte agateettta		20
<210> 110		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 110		
ccctaaaatg agctgtcaga		20
<210> 111		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 111		
cggtctcccc taaaatgagc		20
<210> 112		
<211> 20		

RTS-0201	-47 - P.	ATENT
<213> Artificial Sequence		
•		
<223> Antisense Oligonucleotide		
<400> 112		2.0
tttgcatcgg tctcccctaa		20
<210> 113		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 113		
cagggttttg catcggtctc		20
<210> 114		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 114		
ggccccgagt cagcctggat		20
<210> 115		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 115		2.0
accgtggagt aagcaaagag		20
<210> 116		
<211> 20		

RTS-0201	-48-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 116		
ctggaaccgt ggagtaagca		20
<210> 117		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 117		20
ggcctgcaca aaccaggagc		
<210> 118		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 118		20
agcagagggc ctgcacaaac		20
<210> 119		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 119		20
caggatggag cagagggcct		23
<210> 120		
-211 > 20		

RTS-0201	-49 -	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucle	eotide	
<400> 120		20
tcattcagga tggagcagag		20
<210> 121		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucle	eotide	
<400> 121		20
gccatgctca ttcaggatgg		5.
<210> 122		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucl	eotide	
<400> 122		20
aggtccttgc catgctcatt		20
<210> 123		
<211> 20		
<212> DNA		
<213> Artificial Sequence	:	
<223> Antisense Oligonucl	eotide	
<400> 123		20
ggtcaggatc tgcatgatct		20
<210> 124		
<211> 20		

RTS-0201	-50-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 124		20
ttcaccctgg tcaggatctg		20
<210> 125		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 125		
tgtcgttcac cctggtcagg		20
<210> 126		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 126		
ctggccaccc tgtcgttcac		20
<210> 127		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 127		20
tcagactggg actcgaagtg		20
<210> 128		
<211> 20		

RTS-0201	-51-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 128		20
gtgagcatgg acaccataca		20
<210> 129		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 129		20
ctctttggtg agcatggaca		20
<210> 130		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 130		2.0
aagggtggtc aacggctgaa		20
<210> 131		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 131		2.0
tctggatatt ttgagagcat		20
<210> 132		
<211> 20		

RTS-0201	- 52 -	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 132		20
aacatttctg gatattttga		
<210> 133		
<211> 20		
<212> DNA <213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 133 cttagaggaa gagcatgaag		20
Cccagaggaa gagcacgaag		
<210> 134		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 134		
ggtcatgctc acagcatgca		20
<210> 135		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide	;	
<400> 135		
agcagccacc tttgccaatg		20
<210> 136		
<211> 20		

RTS-0201	-53-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 136		
tgagaacaac cactcagcag		20
<210> 137		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 137		
aaaatctgcc ctaagccact		20
<210> 138		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 138		
ttctatatac tggaatatta		20
<210> 139		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 139		
attecetgta ttgaccette		20
<210> 140		
<211> 20		

RTS-0201	-54-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 140		20
taagtgaatt ccctgtattg		_ •
<210> 141		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 141		
tctcaattac ccgagtaagt		20
<210> 142		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 142		
tctagaaggc tgccctgcca		20
<210> 143		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 143		20
ttctagtctc tagaaggctg		20
<210> 144		
-211 > 20		

RTS-0201	-55-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 144		
tgactcagtt ctggcttggt		20
<210> 145		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 145		
gcgctggtgg atatgggcac		20
<210> 146		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 146		
ttggctttca ggcaccttgg		20
<210> 147		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 147		2.2
ctcactagtt ggctttcagg		20
<210> 148		
<211> 20		
<212> DNA		

RTS-0201	-56-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
(223) 1110100000 0213000000000000000000000000		
<400> 148		
tccctaggcc ctcactagtt		20
<210> 149		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 149		0.0
tgtagcacag ggtagcatgg		20
<210> 150		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 150		20
acgccagagg acatggttat		20
<210> 151		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 151		20
cagtgaatag tgaatgaata		20
<210> 152		
<211> 20		

RTS-0201	-57-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleoti	lde	
<400> 152		20
actetteage acetgtgtgg		20
<210> 153		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleot:	ide	
<400> 153		
gaaatgggtt actcttcagc		20
<210> 154		
<211> 20 <212> DNA		
<213> Artificial Sequence		
(213) Antilitatur boquesto		
<223> Antisense Oligonucleot	ide	
<400> 154		
tcttgtatac aaagtgaaat		20
<210> 155		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleot	ide	
<400> 155		20
cagaggtaac caaagattat		20
<210> 156		
<211> 20		

RTS-0201	-58-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 156		20
agatettege etaaattgte		20
<210> 157		
<211> 20		
<212> DNA <213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 157		20
aaataggaac atctgtcaac		20
<210> 158		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 158		
gtatgaaaat teetgtgatt		20
<210> 159		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 159 tttccacctg ccaattctac		20
cercaccing connection		
<210> 160		
<211> 20		

RTS-0201	-59-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 160		2.0
gtgaaagtgt gctactgttg		20
<210> 161		
<211> 20		
<212> DNA <213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 161		
tgaaaactgc agatttgatg		20
<210> 162		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 162		
atagccatgt aatataatgt		20
<210> 163		
<210> 163 <211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 163		
ttcaatcact gtagtctaag		20
<210> 164		
<211> 20		

RTS-0201	-60-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucle	eotide	
<400> 164		
ctgtacgaag aacttcaatc		20
<210> 165		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucle	eotide	
<400> 165		
ttgatggctg tacgaagaac		20
<210> 166		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucle	otide:	
<400> 166		
aaggaaacct tttcatgcct		20
<210> 167		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucle	otide	
<400> 167		22
attcaaagca gcagagaggg		20
<210> 168		
<211> 20		

RTS-0201	-61-	PATENT
<213> Artificial Sequence		
(213) Middle day		
<223> Antisense Oligonucleotide		
<400> 168		20
acttgggctg tgaacattca		20
<210> 169		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 169		20
aacacttggg ctgtgaacat		20
<210> 170		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 170		20
ggactctgag aacacttggg		20
<210> 171		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 171		
gggcagcaac tcagtttttg		20
<210> 172		
<211 > 20		

RTS-0201	-62-	PATENT
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 172		
ctgcggtccc caccagtggg		20
<210> 173		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 173		
gacctccaca aacctcgctt		20
<210> 174		
<211> 20		
<212> DNA		
<213> Artificial Sequence		
<223> Antisense Oligonucleotide		
<400> 174		
cattccggac ctccacaaac		2